

REMARKS

This application has been reviewed in light of the Office Action mailed on May 2, 2003. Claims 1-10 and 27-30 are pending in the application with Claims 1 and 27 being in independent form. By the present amendment, Claims 1 and 10 have been amended, Claims 27-30 have been added and Claims 11 and 12-26 have been cancelled. No new matter or issues are believed to be introduced by the amendments.

I. Rejection of Claims 1-3, 6-8 and 10-11 Under 35 U.S.C. §103(a)

Claims 1-3, 6-8 and 10-11 were rejected under 35 U.S.C. §103(a) over U.S. Patent No. 5,744,898 issued to Smith et al. (“Smith et al.”). Claim 11 has been cancelled. Previously, Claim 1 recited language claiming multiple embodiments in alternative form. Claim 1 has been amended, per Examiner’s suggestion in the previous Office action and additionally in the current action, to only claim the embodiment in which ultrasonic elements are positioned above cavities, thus further clarifying the claimed invention.

Claim 1 recites: “An ultrasonic transducer, comprising: an ultrasonic sensor having a plurality of transducer elements formed on a first wafer component; and an integrated circuit formed on a second wafer component, said second wafer component including a plurality of cavities defining a plurality of posts such that the cavities are configured and dimensioned to alter the acoustic impedance of said second wafer component in a predefined manner, and wherein the integrated circuit is joined to the ultrasonic sensor on said first wafer component and wherein each of the elements of the ultrasonic sensor is located over a respective one of the plurality of cavities” (emphasis added).

Smith et al. does not disclose or suggest placing ultrasonic elements over cavities, teaching, instead, the formation of ultrasonic elements on posts. In fact, The Smith et al. invention teaches away from placing ultrasonic elements above cavities since Smith et al. does not disclose or suggest a means of forming ultrasonic elements such that they could be placed above cavities. Therefore, it is believed that Claim 1 is patentably distinct over the prior art reference and accordingly, withdrawal of the rejection with respect to Claim 1 under 35 U.S.C. §103(a) over Smith et al. and allowance thereof are respectfully requested.

Claims 2-3, 6-8 and 10 depend from independent Claims 1 and thus are limited by the language recited by independent Claim 1. Accordingly, for at least the reasons given above for Claim 1, withdrawal of the rejection with respect to Claims 2-3, 6-8 and 10 under 35 U.S.C. §103(a) over Smith et al. and allowance thereof are respectfully requested.

II. Rejection of Claims 1-3 and 6-11 Under 35 U.S.C. §103(a)

Claims 1-3 and 6-11 were rejected under 35 U.S.C. §103(a) over Smith et al. in view of U.S. Patent No. 4,277,712 issued to Hanafy (“Hanafy”).

As cited above, Smith et al. does not disclose the placement of ultrasonic elements over cavities as recited by Applicant’s Claim 1. The Hanafy reference does not overcome the cited deficiency of Smith et al. Hanafy only discloses or suggests forming ultrasonic elements on posts. Claim 9 depends from independent Claims 1 and thus is limited by the language recited by independent Claim 1. Therefore, for at least the reasons given above,

Claims 1-3 and 6-10 are believed to be patentably distinct over the prior art references and accordingly, withdrawal of the rejection, with respect to Claims 1-3 and 6-10 under 35 U.S.C. §103(a) over Smith et al. in view of Hanafy, and allowance thereof are respectfully requested.

III. New Claims 27-30

New Claims 27-30 are directed to an additional embodiment disclosed within the specification. Independent Claim 27 is directed towards the embodiment disclosed on page 12, lines 1-3 where the cavities can be filled with air, inert gas or can be formed having a vacuum, thus creating a vacuum- or gas-backed ultrasonic transducer. Dependent Claims 28-30 depend from independent Claim 27.

IV. Conclusions

In view of the foregoing amendments and remarks, it is respectfully submitted that all claims presently pending in the application, namely, Claims 1-3, 6-10 and 27-30, are believed to be in condition for allowance and patentably distinguishable over the art of record.

If the Examiner should have any questions concerning this communication or feels that an interview would be helpful, the Examiner is requested to call John Vodopia, Esq., Intellectual Property Counsel, Philips Electronics North America, at 914-333-9627.

Respectfully submitted,



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